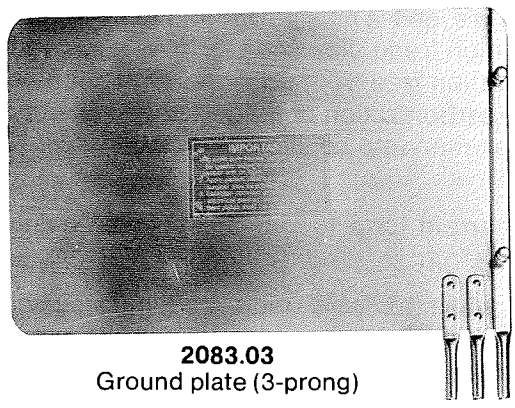
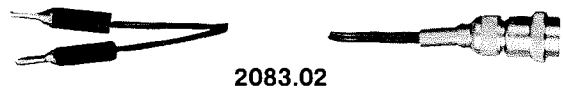
# Accessories for "Piggy-Back" System

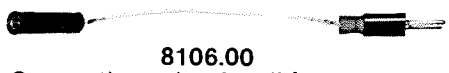


**2083.03**
Ground plate (3-prong)

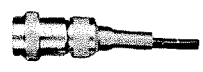


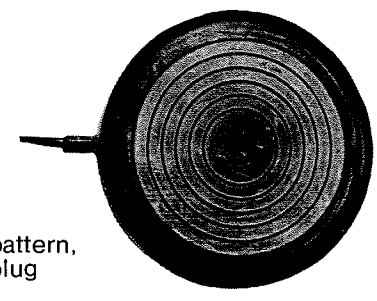
**2083.02**
Connecting cable for indifferent electrode, length 10 ft.

**2083.04**
Rubber strap, perforated, 40".

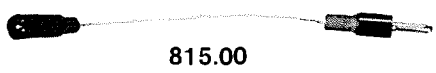


**8106.00**
Connecting cable for all forceps (female type plug)





**2083.01**
Foot switch standard pattern, with self-retaining plug



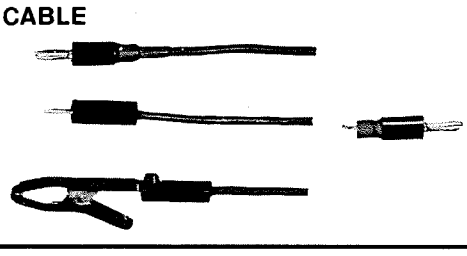
**815.00**
Connecting cable for all electrodes (male type plug)

**COMMON GROUND CABLE**

**8106.70** to fit 2083.04 patient plate

**8106.71** to fit NDM disposable ground plate

**8106.80** to fit most other ground plates



## Laparoscopy Cart

**Model No. 2040.15**
Size: 35⅝" x 18⅛" x 41⅛"

Our Laparoscopy Cart allows convenient storage and mobility for any of our stackable piggyback units. The $CO_2$ supply bottle is retained in an upright position. It is equipped with conductive ball bearing swivel casters and protected with a bumper to eliminate shock as well as damage to the instruments, furniture or cart.

# Electrosurgical Units for Laparoscopy

**IMPORTANT: Contra-indications for electrosurgery**

A) Cardiac patients wearing a pacemaker
B) Not to be used in the presence of combustible or inflammable anesthetics

Tubal ligation has become an accepted clinical procedure, and is now performed in a large number of hospitals. The Fallopian tube is "dehydrated" with high frequency current, involving an electrosurgical unit. In order to produce a permanent coagulation free from post-operative bleeding and other complications such as inflammations caused by carbonization of tissue, as well as to prevent electrosurgical burns, the following factors should be taken into consideration when selecting an electrosurgical unit for tubal sterilization.

For proper coagulation it is essential to use lower current for a longer time, rather than higher current for a shorter time.

The spark-gap current may operate as high as 7000 V, while the "cold" radio-frequency current may be as low as 150 to 200 V. The high voltage creates significant sparking, which may cause discharge of the current to other instruments such as telescopes, causing burns. The relatively low voltage of the radio-frequency current reduces the sparking capability and thus is safer to use.

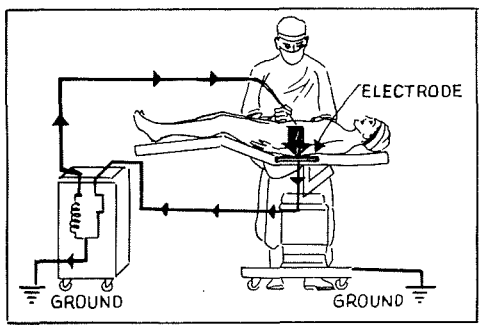
A smooth radio-frequency current with a frequency of 1,700000 Hz (1.7 Mhz) makes possible a coagulation temperature bewteen 120° and 160°C. If a spark-gap type current is being used, the coagulation temperature may be as high as 500°C., carbonizing the tissue, which may lead to post-operative bleeding and inflammatory processes. The "cold" current used in the Wolf high frequency units, has a frequency of 1.7 Mhz, producing coagulation at low temperatures.

**IMPORTANT**

Do not use electrosurgical machines which produce much higher current than needed. For proper coagulation, always use lower current for longer times than high current for shorter times. Never use more current than needed. The higher the voltage of the electrosurgical unit, the greater the possibility of sparking and burning. Through capacity current, even with insulated shafts, heating and burns of puncture sites may occur. It is known that the power output of some high frequency units do not coordinate with the proper selected dial setting, and it is possible that full power is given when the dial setting just calls for 60% power. These and other important facts are usually unknown to the user of high frequency current. We therefore recommend in laparoscopy the use of smaller high frequency machines which do not exceed 100 watt power output maximum.

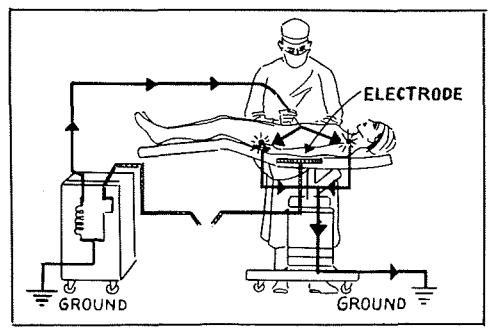
An added safety system (patient sentry) has been incorporated into newer high frequency machines. A warning buzzer starts immediately and the power system automatically cuts off if the cable between the unit and patient plate becomes defective.

**Correct Current Flow**




**With Safety Circuit**

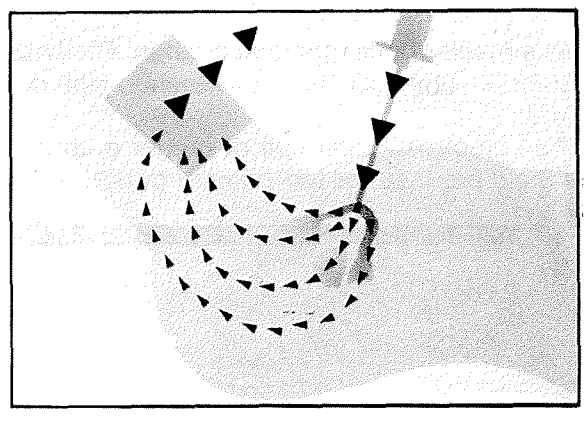
**Incorrect Current Flow**




**Without Safety Circuit**

# Information on Unipolar Instruments for Coagulation

IN UNIPOLAR INSTRUMENTS THE HIGH FREQUENCY CURRENT FLOWS THROUGH A SMALL AREA ELECTRODE INTO TISSUE, RESULTING IN HIGH CURRENT DENSITY. UPON EXCEEDING A CERTAIN CURRENT DENSITY, COAGULATION WILL OCCUR. THE CURRENT RETURNS OVER LARGE CROSS SECTIONS OF TISSUE — WITHOUT COAGULATION EFFECT — TO THE LARGE AREA PATIENT PLATE AND FINALLY BACK TO THE GENERATOR VIA THE NEUTRAL CABLE CONNECTION.



# Instructions for Use of Unipolar Instruments

1. Use high frequency electrosurgical units with a maximum power output of 100 watts (such as the following Wolf electrosurgical units 2083.00, 2083.40).

2. Do not use kinked or bent patient plates. Affix the plate (or disposable grounding pad) firmly to the patient's thigh to insure a large skin contact area.

3. Connecting cables for the patient plate and the active electrodes must be checked before each use to insure their faultlessness.

4. Insulated instruments must be checked before each use. Any breaks in insulation make an instrument potentially dangerous.

5. Use a power setting (on the electrosurgical unit) only as high as required by the surgical procedure. Consult the manufacturer of the electrosurgical unit for suggested settings. If desired effects are not achieved within the suggested setting ranges, *do not increase the setting* before verifying the following:

   (a) the patient plate is properly fastened
   (b) all insulation is faultless
   (c) all cables and plugs are faultless
   (d) instrument tips are free of encrusted tissue

6. Unwanted coagulation may be avoided by observing the following rules:

   (a) apply high frequency current only after the active electrode is in complete contact with the tissue to be coagulated
   (b) do not allow the active electrode to come in contact with any metal portion of any other instrument
   (c) do not allow the tissue to be coagulated to come in contact with any other tissue
   (d) coagulate tubular tissue (e.g., Fallopian tubes) at the thinnest portion

7. Follow the recommendations and instructions of the manufacturer of the high frequency electrosurgical unit and contact that manufacturer if you have any questions about your electrosurgical unit.

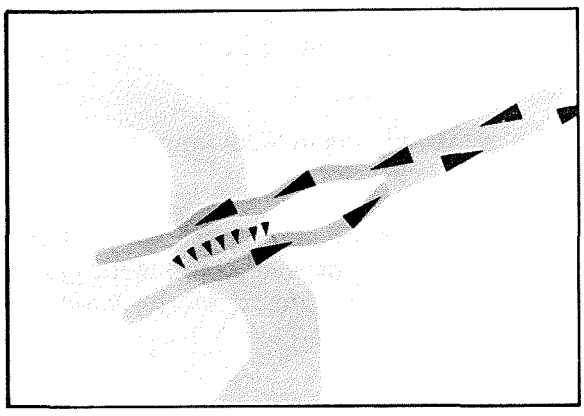
The OB-GYN Advisory Panel to the F.D.A. has made the following recommendation:

A metal trocar sleeve for insertion of 7mm and larger laparoscopes should be used with an electrosurgical unit of 600 volts peak, 100 watts of power at between 200-500 ohms non-reactive.

As a result of this recommendation, Richard Wolf Medical Instruments suggests using the Wolf 2083.00, 2083.40 Mini Combination Unit or the Wolf 2075.00, 2078.40 Bipolar Generator.

If an electrosurgical unit of higher output rating is used then a non-conductive Trocar sleeve should be used for the primary puncture.

## Information on Bipolar Instruments for Coagulation



WITH THE BIPOLAR METHOD, TWO ELECTRODES ARE APPLIED TO THE TISSUE TO BE COAGULATED. IN THE TISSUE BETWEEN THE ELECTRODES A HIGH CURRENT DENSITY SUFFICIENT FOR COAGULATION IS CREATED. ANY UNWANTED CURRENT FLOW THROUGH THE BODY IS AVOIDED TO A LARGE EXTENT WITH THIS METHOD.

## Instructions for Use of Bipolar Instruments

1. Use high frequency electrosurgical units with a separate bipolar circuit and a maximum power output of 50 watts (such as the following Wolf electrosurgical units; 2083.00, 2083.40, 2078.40 and 2075.00). The receptacles for bipolar and unipolar cables should be distinct and different to avoid any possibility of plugging a bipolar cable into a unipolar outlet and vice versa.

2. **IMPORTANT:** Do not affix patient plate with Bipolar technique.

3. For secondary puncture a non-conductive trocar sleeve should be used.